

# HP TFT7210R

## Maintenance and Service Guide



January 2004 (First Edition)  
Part Number 349956-001

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### **Audience Assumptions**

This guide is for an experienced service technician. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels and are familiar with weight and stability precautions for rack installations.



## **Important Safety Information**

Before installing this product, read the *Important Safety Information* document provided.



**WARNING:** To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.

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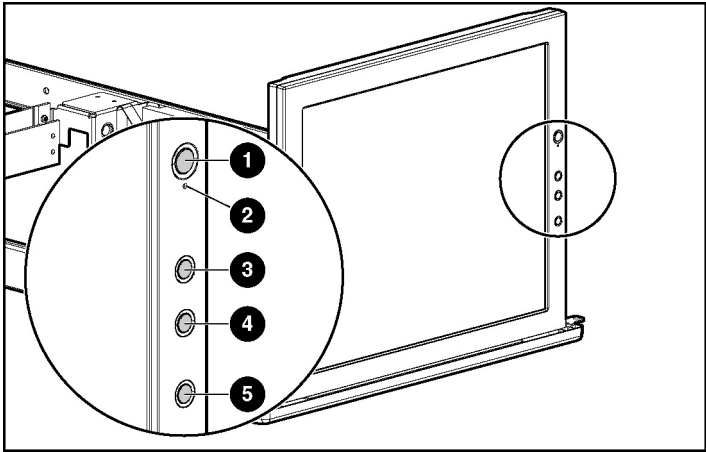
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# Illustrated Parts Catalog

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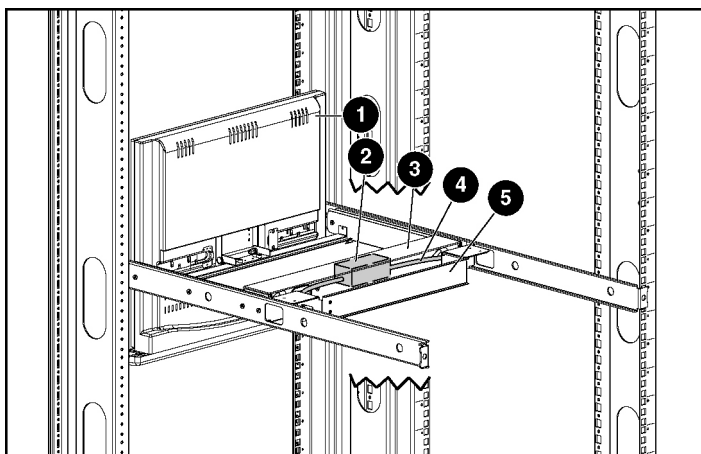
## Front Panel LEDs and Buttons



Item	Description	Function
1	Power On/Off button	Powers the monitor on and off.
2	Power Indicator LED	Indicates the power states of the HP TFT7210R. <ul style="list-style-type: none"><li>• Green—full power</li><li>• Amber—Sleep mode (on page <a href="#">26</a>) and Input Signal Out of Range</li></ul>
3	Plus (+) button	Scrolls up in the OSD menus and adjusts the functions.
4	Minus (-) button	Scrolls down in the OSD menus and adjusts the functions.

Item	Description	Function
5	Menu Select button	Launches the first and second level OSD menus and exits the menus and OSD.

## Rear Components



Item	Description
1	HP TFT7210R
2	AC adapter
3	Rear cover
4	Power cord
5	Brace rail assembly

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# Replaceable Spare Parts

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## HP TFT7210R Spares Kit



353885-001 SPS—MONITOR, 1U

## HP 1U Adjustable Toolless Rails Spares Kit



353886-001 SPS—RAIL KIT, ADJ TOOL-LESS, SHORT SLIDE





# Removal and Replacement Procedures

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## Safety Considerations



### Important Safety Information

Before servicing this product, read the *Important Safety Information* document provided with the HP TFT7210R.

To access some components and perform certain service procedures, you must power off the HP TFT7210R ("Powering On and Off the HP TFT7210R" on page [25](#)).

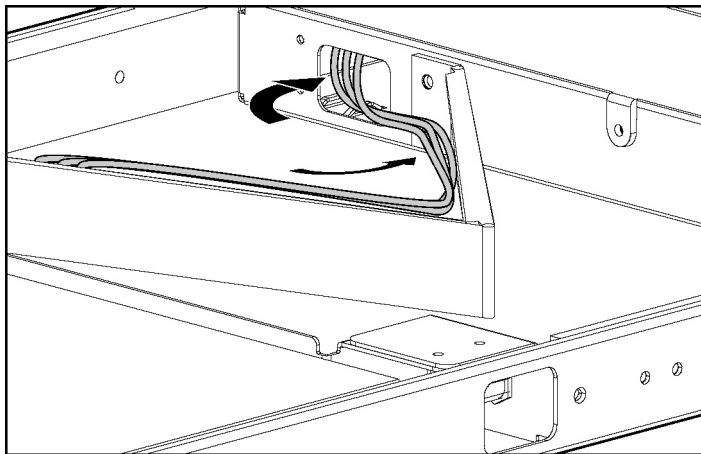
If the rack environment, cabling configuration, or the HP TFT7210R location in the rack creates awkward conditions, remove the HP TFT7210R ("Removing the HP TFT7210R" on page [10](#)) from the rack.

## Required Tools

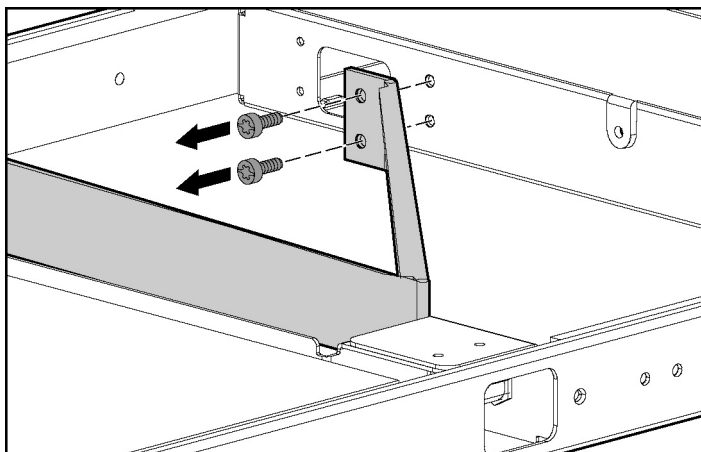
- T-15 Torx screwdriver
- Phillips screwdriver

## Removing the HP TFT7210R

1. Power off the HP TFT7210R ("Powering On and Off the HP TFT7210R" on page [25](#)).
2. Disconnect and unroute the cables.

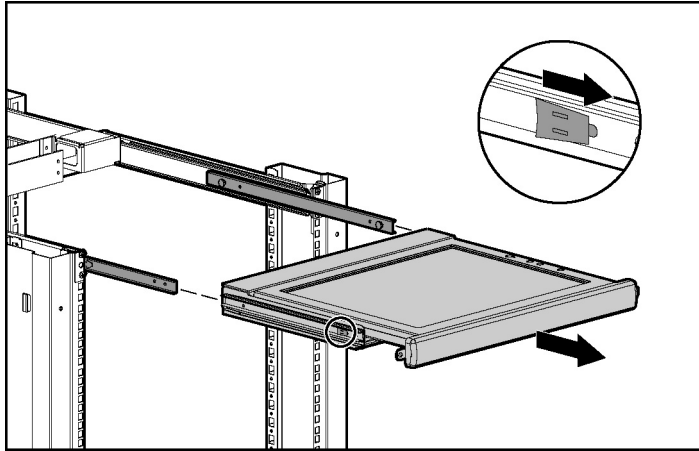


3. Remove the two screws securing the cable management arm to the rear of the HP TFT7210R.



4. Pull the release mechanisms toward you with your index fingers to unlock the inner slides.

5. Continue moving the HP TFT7210R toward you while holding the release mechanisms and remove the HP TFT7210R from the rack.

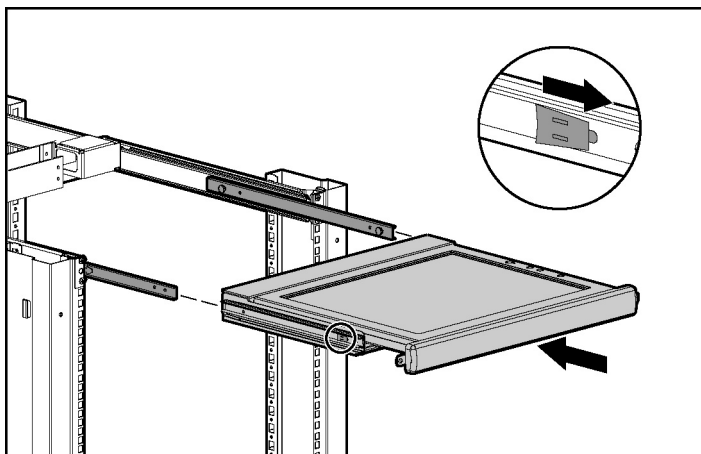


## Replacing the HP TFT7210R

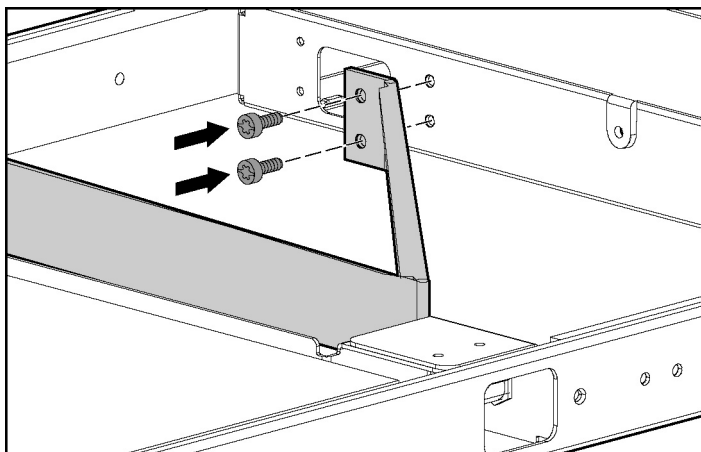
1. Extend the inner slides until they lock into place.
2. Align the HP TFT7210R with the extended inner slides, and pull the release mechanisms toward you while inserting the HP TFT7210R into the rack.



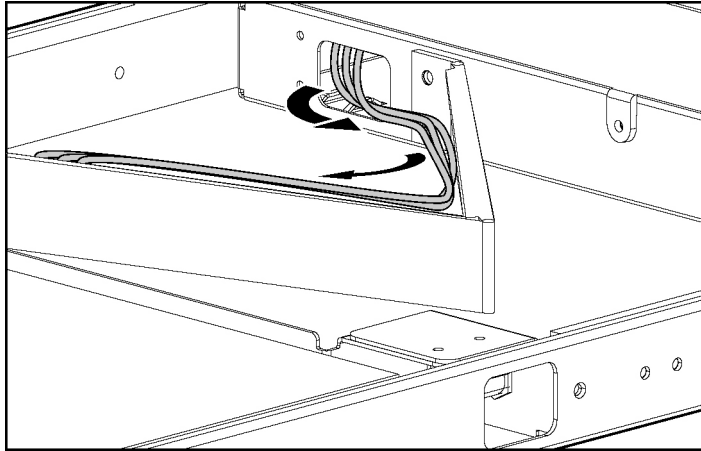
**WARNING:** To reduce the risk of personal injury, release the release mechanisms after pushing the HP TFT7210R slightly forward.



3. Attach the cable management arm to the rear of the HP TFT7210R with two screws.



4. Route the cables and plug in the HP TFT7210R.

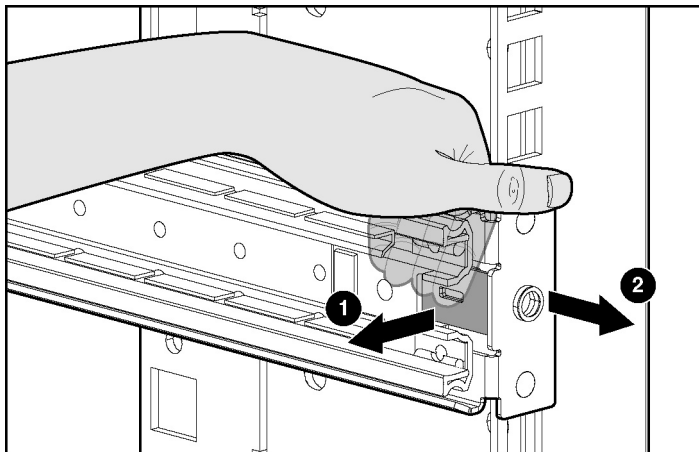


5. Power on the HP TFT7210R ("Powering On and Off the HP TFT7210R" on page [25](#)).

## Removing the HP 1U Adjustable Toolless Rails

1. Remove the HP TFT7210R ("Removing the HP TFT7210R" on page [10](#)).
2. Remove the brace rail assembly ("Removing the Brace Rail Assembly" on page [15](#)).
3. Locate the spring release.
4. Place your hand on the outside of the HP 1U Adjustable Toolless Rail so that you can move the spring release.
5. Gently move the spring release toward the inside of the rack (1) while moving the HP 1U Adjustable Toolless Rail out toward you and away from the rack (2).

**NOTE:** If you cannot gain access to the spring release from the outside of the HP 1U Adjustable Toolless Rail, a tool might be required to unlock the spring release from the unit side of the HP 1U Adjustable Toolless Rail.

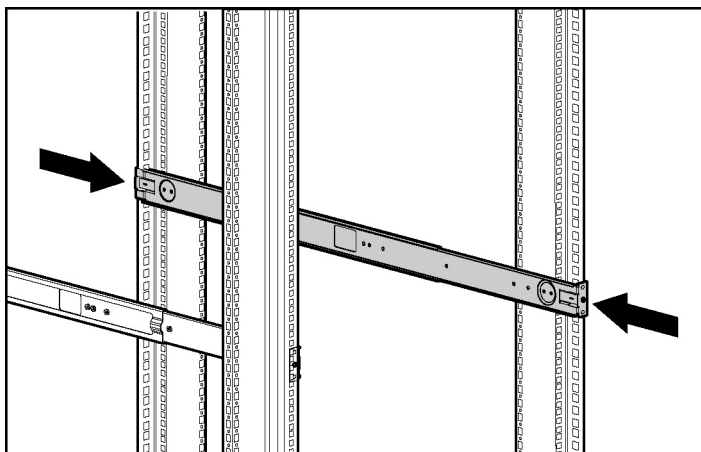


6. Repeat the previous steps for the other HP 1U Adjustable Toolless Rail.

## Replacing the HP 1U Adjustable Toolless Rails

1. Align the HP 1U Adjustable Toolless Rails with the holes marked with the rack template, and snap them into place.
  - a. Snap one end of the HP 1U Adjustable Toolless Rails into the Retma rails.
  - b. Extend the other half of the HP 1U Adjustable Toolless Rails to meet the appropriate rack depth, and snap them into place.

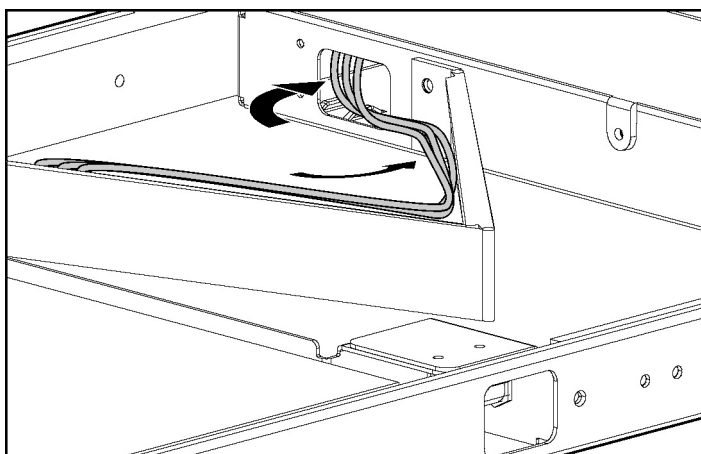
**NOTE:** If the HP 1U Adjustable Toolless Rails do not snap into place, be sure that they align with the holes marked with the rack template. The holes marked with the rack template must be in the same location for the front and rear of the rack.



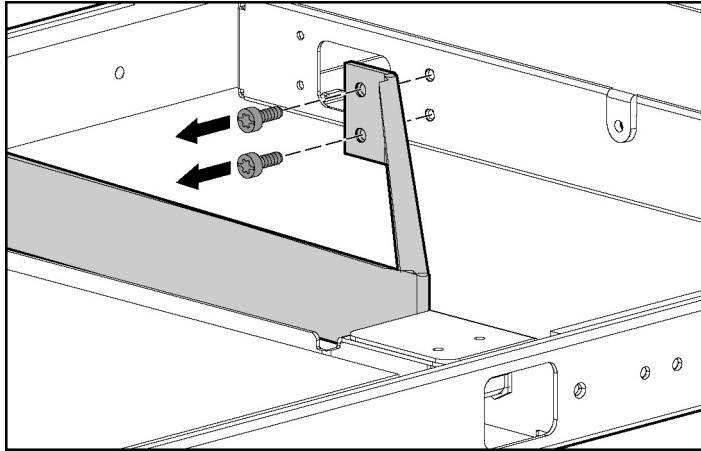
2. Replace the brace rail assembly ("Replacing the Brace Rail Assembly" on page [18](#)).

## Removing the Brace Rail Assembly

1. Disconnect and unroute the cables.

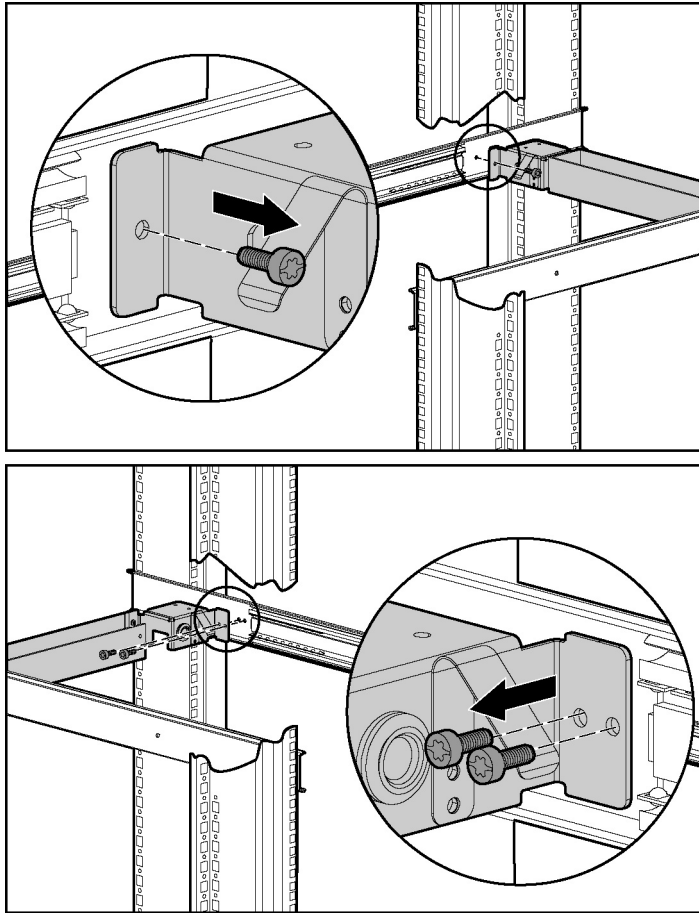


2. Remove the two screws securing the cable management arm to the rear of the HP TFT7210R.

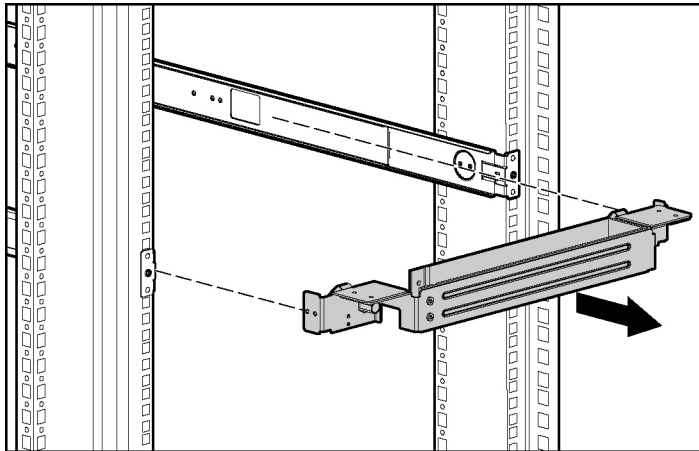


3. Remove the three screws securing the brace rail to the HP 1U Adjustable Toolless Rails.





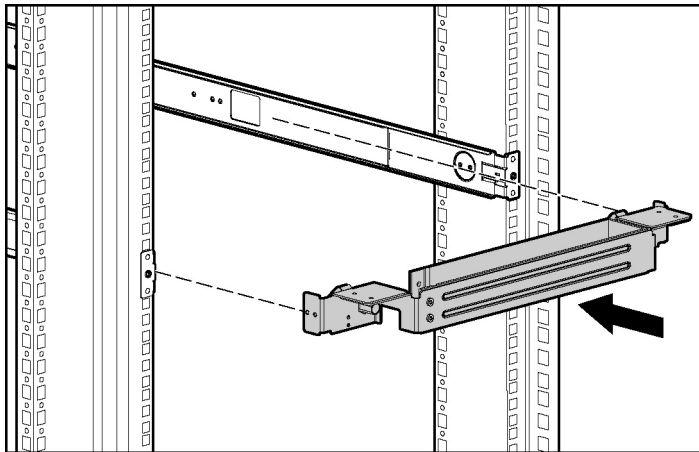
4. From the rear of the rack, slide the brace rail assembly out toward you.



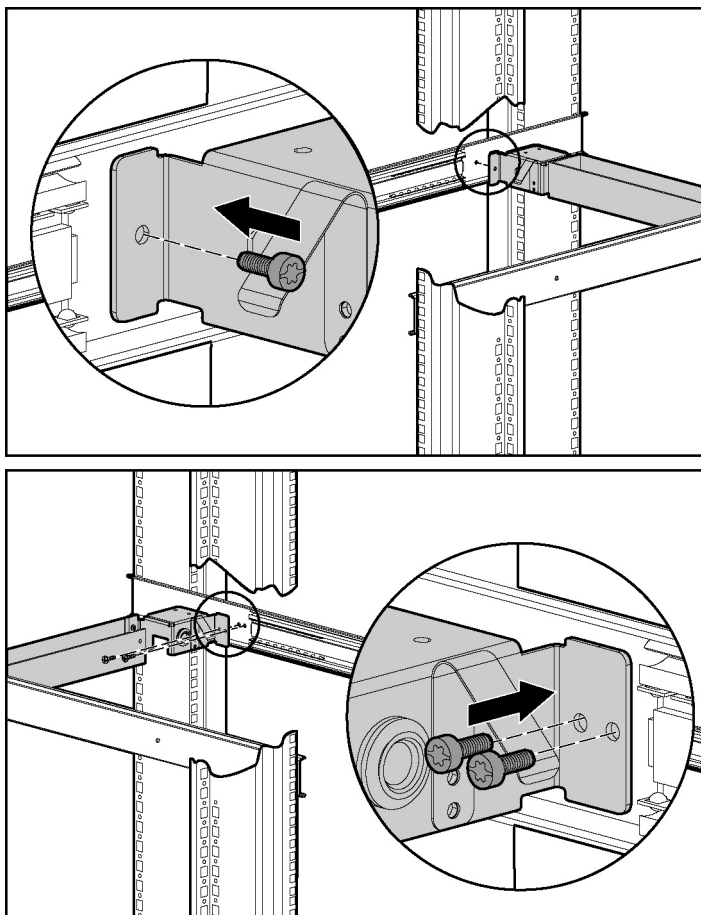
## Replacing the Brace Rail Assembly

1. Slide the brace rail assembly into the HP 1U Adjustable Toolless Rails from the rear of the rack, ensuring that the cable access hole faces the left side of the rack.

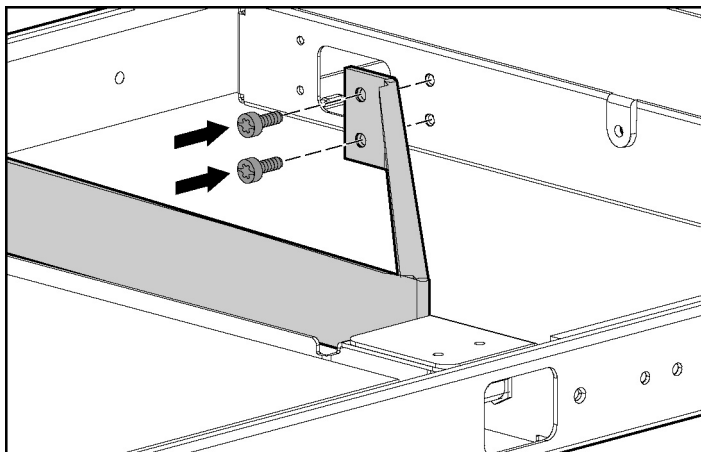
**NOTE:** The cable access hole must be positioned on the left side of the rack to enable appropriate routing of the cables.



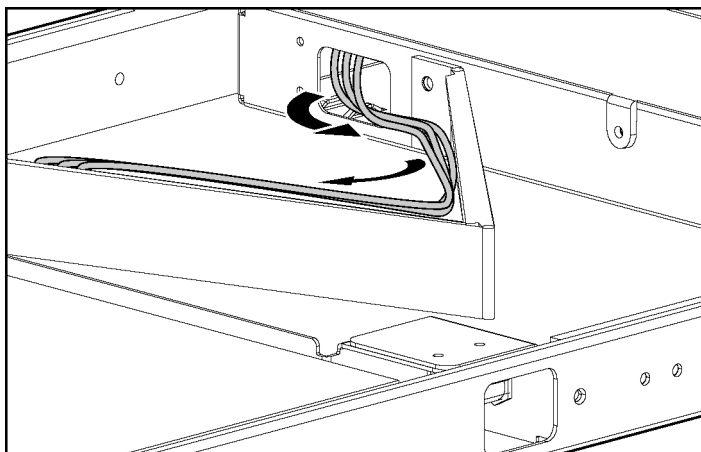
2. Align the screw holes on the brace rail with the screw holes on the HP 1U Adjustable Toolless Rails.
3. Secure the brace rail to the HP 1U Adjustable Toolless Rails by inserting three screws and tightening them.



4. Attach the cable management arm to the rear of the HP TFT7210R with two screws.



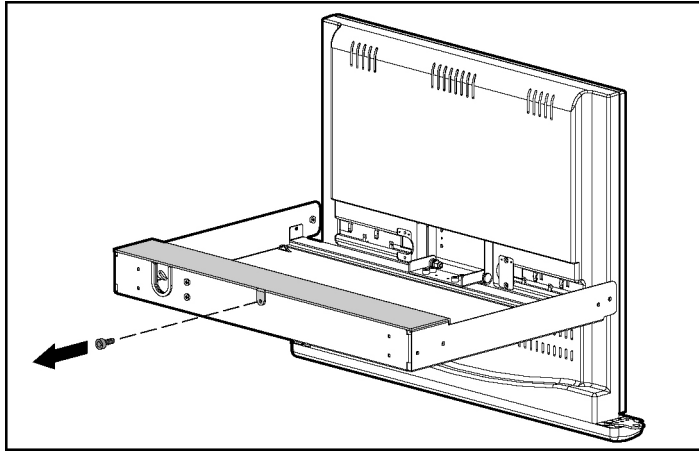
5. Route the cables and plug in the HP TFT7210R.



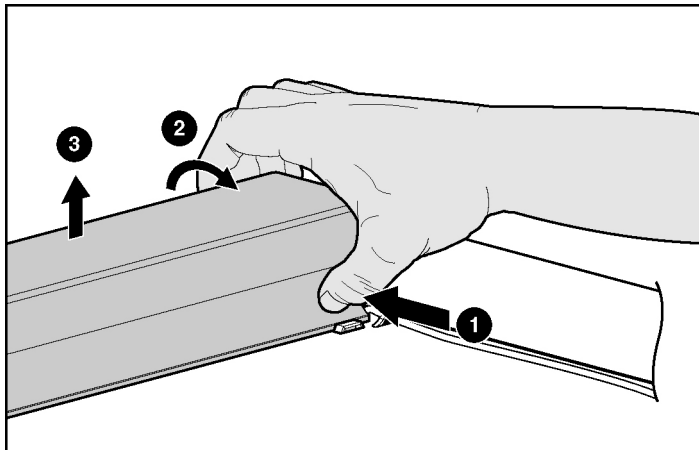
## Removing the Rear Cover

**IMPORTANT:** The display must be positioned at a 90 degree angle.

1. Remove the screw.



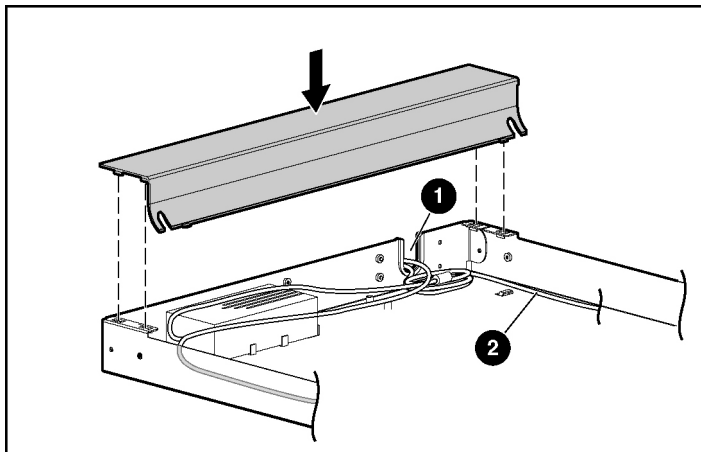
2. Grasp the rear cover with both hands.
3. Apply pressure to the rear cover using your thumbs (1) while rotating the rear cover out toward you using your fingers (2).
4. Lift the rear cover away (3).



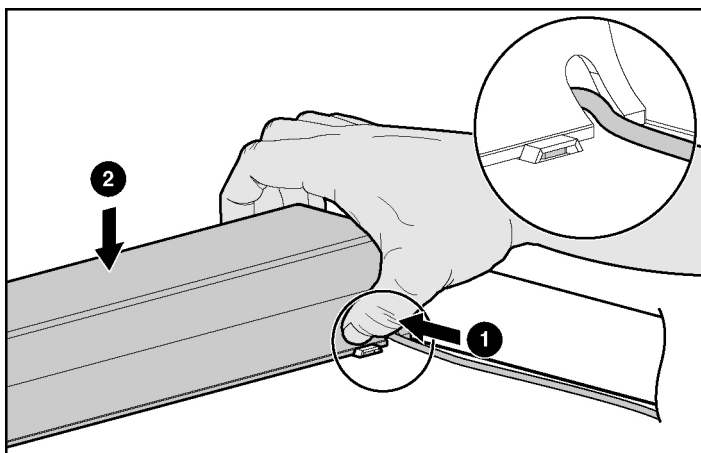
## Replacing the Rear Cover

**IMPORTANT:** The display must be positioned at a 90 degree angle.

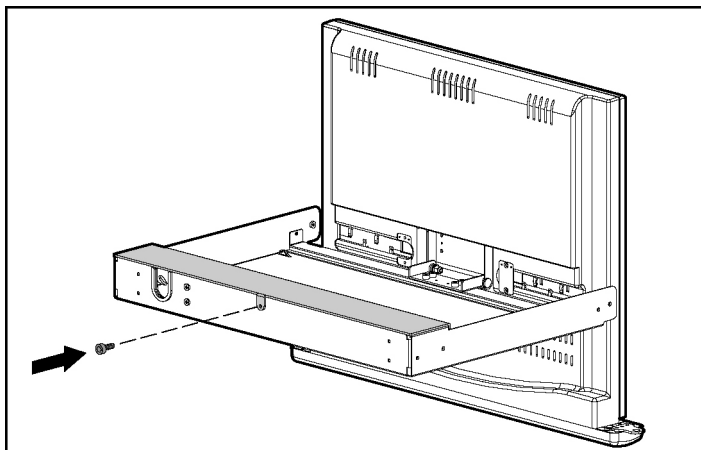
1. Place the rear cover directly over the metal tray.
2. Be sure the cables are aligned with the openings on the rear of the metal tray (1) and the front of the rear cover (2).



3. Grasp the rear cover with both hands.
4. Use your thumbs to push the rear cover tabs under the metal tray holders (1) and snap the rear cover into place (2).



5. Insert the screw.







# Operational Overview

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## Powering On and Off the HP TFT7210R

Press the **Power On/Off** button.

## Accessing the OSD Main Menu

1. Press the **Menu Select** button on the front panel ("Front Panel LEDs and Buttons" on page [5](#)). The OSD Main menu appears and the default settings are shown when first accessing this menu.
2. Scroll down by pressing the **Minus (-)** button, or scroll up by pressing **Plus (+)** button.
3. Press the **Menu Select** button to activate the highlighted menu item.

If the Menu Select, Minus (-), or Plus (+) buttons remain untouched for the time duration that has been set by the OSD Timeout function, any new settings that have not been saved will be discarded and the previously saved settings are restored.

## Exiting the OSD Main Menu

From the OSD Main menu, highlight **Exit**, and then press the **Menu Select** button to exit and close the OSD Main menu.

## Input Signal Out of Range

An input signal that is outside the normal range of operation defined by the capabilities of the HP TFT7210R, causes a "Selected resolution is not within recommended range of operation" message to appear for 30 seconds.

## Sleep Mode

After losing video signal, for supported video resolutions, a "Check Cable" message appears and is stationary for two seconds. The display then goes blank, the monitor powers off, and the LED is amber.

For unsupported video modes that exceed 1280 X 1024 at 76 Hz, the display has a black background, the LED is amber, and a "Selected resolution is not within recommended range of operation" message appears for 20 seconds. After losing video signal, the message disappears.

## Changing Out the Power Cords

Before installing the HP TFT7210R into the rack, determine which power cord is appropriate for your rack environment. To replace the high-voltage power cord with the low-voltage power cord, the rear cover must be removed and replaced before installation.

To replace the power cord:

1. Remove the rear cover ("Removing the Rear Cover" on page [20](#)).
2. Remove the screw from the holding clip.
3. Unplug the high-voltage power cord from the AC brick.
4. Plug the low-voltage power cord into the AC brick.
5. Insert the screw into the holding clip and tighten.
6. Replace the rear cover ("Replacing the Rear Cover" on page [21](#)).

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# Maintenance

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## Maintenance Guidelines

To protect the HP TFT7210R from overheating and other types of damage:

- Use only a power source and connection appropriate for the HP TFT7210R, as indicated on the agency label.
- If an extension cord or power strip is used, be sure that the cord or strip is rated for the product. Also, be sure that the total ampere ratings of all products plugged into the extension cord or power strip do not exceed 80% of the extension cord or strip ampere ratings label.
- Do not overload an electrical outlet, power strip, or convenience receptacle. The overall system load must not exceed 80% of the branch circuit rating. If power strips are used, the load should not exceed 80% of the power strip input rating.
- Install the HP TFT7210R near an outlet that you can reach easily. Disconnect the product by grasping the plug firmly and pulling it from the outlet. Never disconnect it by pulling the cord.
- Unplug the HP TFT7210R from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- Slots and openings in the monitor are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into these slots or openings.
- Do not drop the HP TFT7210R or place it on an unstable surface.
- Do not allow anything to rest on the power cord. Do not walk on the cord.

- Keep the original packing material and box in a storage area in case you need them later.
- Keep the HP TFT7210R in a well-ventilated area, away from excessive light, heat, and moisture. Keep the monitor away from high-capacity transformers, electric motors, and other strong magnetic fields.
- Do not attempt to service this product yourself. Adjust only those controls that are covered by the operating instructions. If the HP TFT7210R is not operating properly or has been dropped or damaged, contact your HP authorized dealer, reseller, or service provider.

## Cleaning the HP TFT7210R

1. Power off the HP TFT7210R ("Powering On and Off the HP TFT7210R" on page [25](#)).
2. Wipe the screen with a soft, clean cloth.

If the screen requires additional cleaning, use any anti-static CRT screen cleaner.



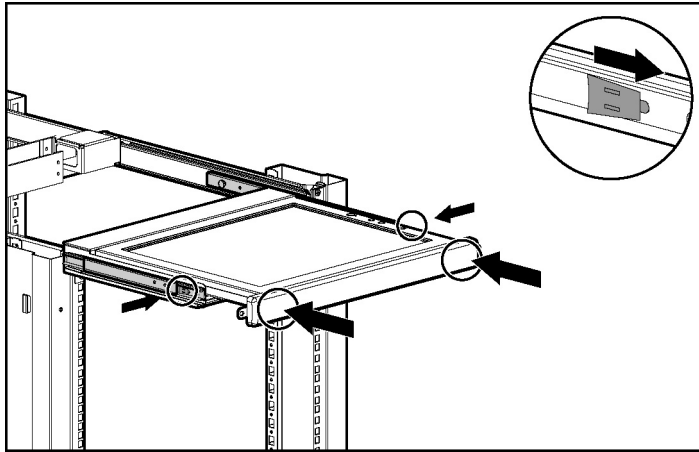
**CAUTION:** Do not use benzene, thinner, ammonia, or any volatile substance to clean the screen or cabinet. These chemicals can damage the screen. Never use water to clean a screen.

## Storing the HP TFT7210R

1. Pull the release mechanism toward you with your index fingers to unlock the inner slides.
2. In the same motion, release the release mechanism and move the HP TFT7210R forward into the stored position.



**WARNING:** To reduce the risk of personal injury, release the release mechanisms after pushing the HP TFT7210R slightly forward.

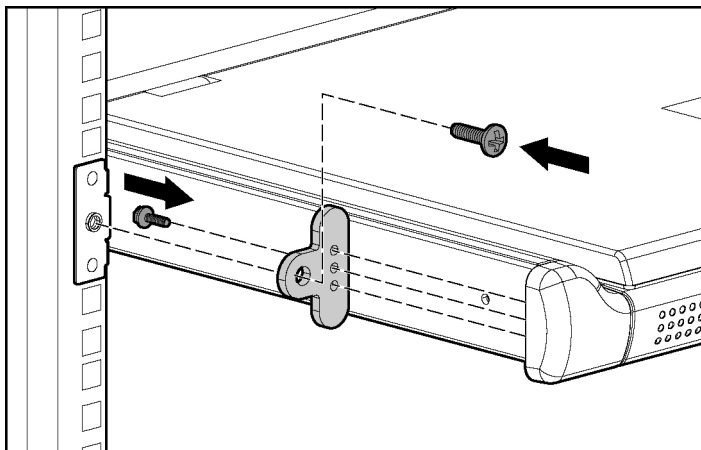


## Moving a Rack with the HP TFT7210R Installed

When moving the HP TFT7210R installed in a rack, HP recommends installing the lock plates.

1. Fully extend the HP TFT7210R until the slides lock into place.
2. Place a lock plate behind the corner of the front plastic bezel, being sure that the top and bottom holes are aligned with the front plastic bezel pins.
3. From behind the corner of the front plastic bezel, insert a 6-32 screw into the middle hole on the lock plate, securing it to the HP TFT7210R.
4. Repeat steps 2 and 3 to install the other lock plate.
5. Push the HP TFT7210R back into the rack.
6. Insert an M6 screw into the only visible lock plate hole, securing the HP TFT7210R to the rail.

7. Repeat step 6 for the other lock plate.



# Specifications

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## Environmental Specifications

Feature	Specification
Operating temperature (independent of altitude)	5 to 35°C (41 to 95°F)
Nonoperating temperature (independent of altitude)	-20 to 60°C (-4 to 140°F)
Relative humidity	20 to 80%; noncondensing
Operating altitude	0 to 3,658 m (12,000 ft)
Nonoperating altitude	0 to 12,192 m (40,000 ft)

## Physical Specifications

Parameter	Specification
Monitor height	34.29 cm (13.5 in)
Monitor depth	4.25 cm (1.67 in)
Monitor width	39.6 cm (15.59 in)
Unit weight	6.12 kg (13.5 lb)





# Acronyms and Abbreviations

**CRT**

cathode-ray tube

**LED**

light-emitting diode

**OSD**

on-screen display

**TFT**

thin film transistor



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